

**CLAIMS**

1. A channel structure capable of supporting data transmission on a reverse link of a wireless communication system, comprising:
- a reverse fundamental channel configurable to transmit data and signaling on the reverse link;
  - a reverse supplemental channel assignable and configurable to transmitted packet data on the reverse link;
  - a reverse control channel configurable to transmit signaling on the reverse link; and
  - a forward power control channel configurable to transmit first and second power control streams for the reverse link for a particular remote terminal, wherein
    - the first power control stream is used to control the transmit power of the reverse supplemental channel in combination with at least one other reverse link channel, and
    - the second power control stream is used to control a transmit characteristic of the reverse supplemental channel.
2. The channel structure of claim 1, wherein the second power control stream is used to control the transmit power of the reverse supplemental channel relative to that of a designated reverse link channel.
3. The channel structure of claim 1, wherein the second power control stream is used to control the data rate of the reverse supplemental channel.
4. The channel structure of claim 1, further comprising:
- a forward acknowledgment channel configurable to transmit, on the forward link, signaling indicative of received status of the packet data transmission on the reverse link.

5. The channel structure of claim 4, wherein the forward  
2 acknowledgment channel is configurable to transmit an acknowledgment or a  
negative acknowledgment for each transmitted data frame on the reverse  
4 supplemental channel.

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6. The channel structure of claim 5, wherein the acknowledgment or  
2 negative acknowledgment for each transmitted data frame is transmitted a  
plurality of times on the forward acknowledgment channel.

7. The channel structure of claim 1, wherein the reverse control  
2 channel is configurable to transmit signaling used to assign and de-assign the  
reverse supplemental channel.

8. The channel structure of claim 1, further comprising:  
2 a reverse rate indicator channel configurable to transmit on the reverse  
link information related to a packet data transmission on the reverse link.

9. A channel structure capable of supporting data transmission on a  
2 reverse link of a wireless communication system, comprising:

a reverse fundamental channel configurable to transmit data and  
4 signaling on the reverse link;

a reverse supplemental channel assignable and configurable to  
6 transmitted packet data on the reverse link;

a reverse control channel configurable to transmit signaling on the  
8 reverse link; and

a forward power control channel configurable to transmit first and second  
10 power control streams for the reverse link for a particular remote terminal,  
wherein

12 the first power control stream is used to control the transmit power  
of the reverse supplemental channel in combination with at least one  
14 other reverse link channel, and

the second power control stream is configured to control a  
16 transmit characteristic of a group of remote terminals.

10. The channel structure of claim 9, wherein the second power  
2 control stream is used to similarly control the transmit power or data rate of the  
group of remote terminals.

11. The channel structure of claim 9, wherein the second power  
2 control stream is used to enable and disable transmissions on reverse  
supplemental channels assigned to the group of remote terminals.

12. A method for transmitting data on a reverse link of a wireless  
2 communication system, comprising:  
transmitting a frame of data on the reverse link via a data channel;  
4 temporarily retaining the data frame in a buffer;  
monitoring for a message on a forward link indicating a received status of  
6 the transmitted data frame; and  
processing the data frame based on the received message.

13. The method of claim 12, wherein the processing includes;  
2 retransmitting the data frame if the message indicates that the  
transmitted data frame was incorrectly received.

14. The method of claim 12, wherein the processing includes;  
2 discarding the data frame from the buffer if the message indicates that  
the transmitted data frame was correctly received.

15. The method of claim 12, wherein the processing includes;  
2 retaining the data frame in the buffer if the message is not properly  
detected.

16. The method of claim 12, further comprising:  
2 monitoring for a second transmission of the message;  
wherein the processing of the data frame is based on one or more  
4 received messages for the data frame.

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17. The method of claim 16, further comprising:  
2 combining the received messages for the data frame to provide a more  
reliable message.

18. The method of claim 12, further comprising:  
2 identifying the transmitted data frame with a sequence number.

19. The method of claim 18, further comprising:  
2 transmitting the sequence number of the transmitted data frame via a  
signaling channel.

20. The method of claim 12, further comprising:  
2 identifying the transmitted data frame as either a first transmission or a  
retransmission.

21. A method for transmitting data on a reverse link of a wireless  
2 communication system, comprising:  
transmitting a frame of data on the reverse link via a data channel;  
4 temporarily retaining the data frame in a buffer;  
monitoring for a message on a forward link indicating a received status of  
6 the transmitted data frame;  
retransmitting the data frame if the message indicates that the  
8 transmitted data frame was incorrectly received;  
discarding the data frame from the buffer if the message indicates that  
10 the transmitted data frame was correctly received; and  
retaining the data frame in the buffer if the message is not properly  
12 detected.

22. A method for controlling transmit power of a supplemental channel  
2 in a reverse link of a wireless communication system, comprising:  
receiving a first power control stream for controlling the transmit power of  
4 the supplemental channel in combination with at least one other reverse link  
channel;

- 6 receiving a second power control stream for controlling a transmit  
characteristic of the supplemental channel; and  
8 adjusting the transmit power and characteristic of the supplemental  
channel based on the first and second power control streams.

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23. The method of claim 22, wherein the second power control stream  
2 controls the transmit power of the supplemental channel relative to that of a  
designated reverse link channel.

24. The method of claim 22, wherein the second power control stream  
2 controls a data rate of the supplemental channel.

25. The method of claim 22, wherein the second power control stream  
2 enables and disables transmission on the supplemental channel.

26. The method of claim 22, wherein the transmit power of the  
2 supplemental channel is adjusted by a larger step in response to the second  
power control stream than for the first power control stream.

27. The method of claim 22, wherein the second power control stream  
2 is assigned to a plurality of remote terminals.

28. The method of claim 28, wherein supplemental channels for the  
2 plurality of remote terminals are controlled in similar manner by the second  
power control stream.

29. A remote terminal in a wireless communication system,  
2 comprising:

- a transmit data processor configurable to process and transmit  
4 data and signaling on a reverse fundamental channel,  
packet data on an assigned reverse supplemental channel,  
6 signaling on a reverse control channel, and

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